

# Is research and teaching a key for preserving university collections and museums?

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## Abstract

*It is now well known that one of the main challenges for university collections is the recognition of the usefulness of their heritage value within the institution. As long as university collections are used for research and teaching the danger of their “disappearance” is less acute. However, how to maintain this link when scientific activity is characterized by a strong turn over regarding subject of interest, practices, teaching and research tools? When internet and communication technologies open a new era based on the immaterial and the virtual?*

*I would present in my paper an overview of the various answers that have been put in place within the University of Strasbourg to maintain or give new value for teaching or research activities to our collections in different fields like Egyptology, ethnology, physics, zoology, botany, palaeontology, anatomy or history of science. A particular attention would also be put on the compatibility of research and teaching missions with, on the one hand, the long term preservation of the collections and, on the other hand, the accessibility to general public. In other words, to what extent is it possible to reconcile research and teaching activities with university heritage preservation?*

*The role of collections and museums as ‘tools/resources/elements’ for teaching and research is of major interest for several reasons. Firstly because university collections and museums are primary knowledge artifacts. Secondly because research and teaching have been the main activities of universities since at least the late 19<sup>th</sup> century. Thirdly, because this genuine link makes university collections and museum on the one hand precious and unique and on the other hand fragile, vulnerable and short-lived compared to cultural collections and other museum institutions. And last but not least, because most of the people in charge of university collections are academics or are managed by academics. In my paper I would like to address various questions: is the preservation of collections for the purposes of research and teaching an issue to be discussed or simply a matter of fact? Are teaching and research the only justifications for maintaining scientific collections? Do we only preserve them through constant use as teaching or research tools? Based on various examples in my own university, my viewpoint is obviously not only framed by many national specificities but also by the fact that a majority of our collections are collections related to ‘hard’ science. The University of Strasbourg does not have art collections.*

## An historical overview of the collections of the University of Strasbourg

### *Building knowledge and prestige*

Like many European universities (LOURENÇO 2005), the University of Strasbourg owns numerous collections: zoology, mineralogy, anatomy, Egyptology, archaeology, ethnology, a herbarium, botany, paleontology, to name only the biggest. These collections are irremediably linked to the particular history of the university. The mineralogical and zoological collections have their origins in the natural history cabinet built by the Strasbourg naturalist, Jean Hermann, between 1762 and 1800 (WANDHAMMER 2008). Hermann also contributed to the rapidly expanding botanical garden which dates from 1619 (RUSQUE 2002).

The story of these collections, and the places where they are still sheltered today is, however, deeply marked by the more recent past with the installation of the Kaiser-Wilhelms-Universität Straßburg between 1872 and 1919, when the Germans annexed Alsace-Moselle after the French defeat in 1871. The Chancellor Bismarck obtained from the Reichstag both the statute of imperial territory

(“Reichsland”) for this new land, directly administered by Berlin with Strasbourg as capital and authorization for the creation of a new university. The new university should not only permit the development of German culture and language in the new land but also serve as a showcase for the power and modernism of the newly unified Germany. The monumental university buildings, their equipment, their teaching and research collections, as well as the highly qualified professors who taught there, all bore testimony to the huge investment made by the German Empire. Humanities were assembled in the university palace both along the imperial axes and facing the palace of the Emperor Wilhelm. The astronomical observatory was – and still is – located at the axes’ and campus’ end (BOURA ET AL. 2009). It is surrounded by the new botanical garden with Victorian style greenhouses (the old garden was turned into a cemetery during the siege of Strasbourg). Between these were built the Botanical Institute, the Institute of Physics and the Institute of Chemistry (the biggest building). The collections of the natural history cabinet were distributed into two new museums integrated into the Zoology and Geology Institutes of the University. Other than the various institutes linked to medical science that were finally built next to the old hospital, the university buildings were built into an integrated campus (fig. 1).



Fig. 1 - Historical Campus, Université de Strasbourg, Photo: F. Zvardon © Région Alsace, Inventaire général

When the French got the annexed territories back after the First World War, they were also keen on proving that they could do at least as well as, if not better, than the Germans. The university benefited also from greater attention from the state compared to other provincial French universities. The strong investments were pursued once again by the Germans during the Second World War and then again by the French after 1945. Thus in many fields, not only science but also humanities, Strasbourg had certainly risen to become one of the best universities of Europe during that time despite its small size as a city (CRAWFORD ET AL. 2005).

*Great numbers, various forms, different management*

The bombing of the two World Wars and the four changes of nation and political system,

had surprisingly little impact on the preservation of university collections and museums: sketches, samples, stuffed animals, the herbarium, seeds, instruments (small and big), teaching and research collections of all sorts, thousands of objects were preserved and for the most part still are preserved today. The museum of zoology and mineralogy as well as the botanical garden and the herbarium are

still there, open to the general public; plaster casts stoked in the basement of the university palace in case of bombing during the Second World War are mostly preserved but still in the basement; museum spaces were built within the astronomical observatory and a planetarium was added in the 1980s, the old seismology observatory was turned into a museum of seismology and earth magnetism in the middle of the 1990s, and few others collections are on display in their institute like those of normal anatomy, paleontology or instruments of physics.

Like many other universities, we are confronted by the great scale of the collections and above all their heterogeneity. This heterogeneity arises not only from the nature of the objects, but also from their use (public display, teaching, research), from the person in charge of it (professor or retired professor, curator, technician) and even from their accessibility to the public (from none to day to day bases). Keeping this heterogeneity in mind is certainly an important point if one has to put in place a general policy concerning collections.

#### *Towards a general policy to preserve and increase access of collections*

A big step has been taken in Strasbourg in 2006 when the Committee of University Collections and Museum was created. This committee is composed of all persons in charge of a collection. Its objectives are first to establish ongoing exchange among its members, secondly to encourage collaborations, and thirdly to promote reflection on the implementation of a general policy regarding preservation and accessibility of the collections. This committee doesn't have an executive power within the university but its existence should counteract the 'every collection for itself' phenomenon which links the survival of a collection to a particular individual. We have created a website,<sup>1</sup> organized collective activities during the *Museums' night* and the *European heritage days*, and produced different exhibitions. But the most important part is certainly the discussions and exchanges that take place during regular meetings, and which help to dispersed heterogeneity into collective complementarities among the members.

Together with this committee the *Jardin des Sciences* – Garden of Science –, sustains and develops a general policy for the preservation and the valorization of the collections and museums. More broadly, this university's department is in charge of the communication and the spread of scientific culture towards children, young adults and scholarly public and also towards a general public. To put it briefly, it assumes the double role of a science centre and a museum structure. Its activities are developed within the university but also function on a regional scale.

Thus for the past few years collections and museum seem to benefit from a new general interest regarding their preservation and accessibility within the University of Strasbourg even though on the field this improvement seems fragile and limited. This awareness follows a more European trend for university heritage that arose in the end of the 1990s (BOUDIA 2007; LOURENÇO 2005; FERRIOT & LOURENÇO 2004; SANZ & BERGAN 2002).

### **Research and teaching an original link dangerous to break**

#### *Breaking the link get the collections at risk*

One can find many examples within universities to sustain the idea that collections started to be at risk when research or teaching practices attached to them stopped. I would like to present our most striking examples at Strasbourg.

The first one will be the collection of Egyptology. During the 1970s the last professor in charge of the chair of Egyptology retired. For various reasons, this position disappeared and left the collections

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<sup>1</sup> [collections.u-strasbg.fr/](http://collections.u-strasbg.fr/) (accessed September 10, 2010).

without any official 'keeper'. It also meant that these collections now occupied a valuable space that could be used by another for 'living' research. The existence of the department of archaeology certainly helped prevent the collections from being lost into oblivion, however it didn't prevent their successive relocation from one room to another, from one shelter to another. A couple of decades later, new opportunities made it possible to create a new position in Egyptology. This in turn resulted in the assignment of new rooms to stock the collection, linked to a library, a teaching room and a conservation workshop for the collection. Even some display cases were bought to exhibit a few objects. In ten years, the collections of Egyptology regained a new legitimacy supported by the research fame and activities of the professor and his assistant, and also the masters-level courses in Egyptology that utilize the collections (it is indeed the only diploma in France which can use university collections of such abundance). Important work was also done to strengthen the accessibility and the visibility of the collections with the creation of a database and various exhibitions.

What happened to Egyptology, is now happening to paleontology. The last professor of paleontology retired few years ago and its position was used for another discipline. The University decided to stop research into this scientific field. The retired professor is still very active and he is a member of the committee of collections and museum of the university. However the retention and preservation of the large collections of paleontology and petrography is now questioned. What is at issue is the scientific usefulness of these collections within the university during a period without any active research taking place and with pressures concerning the space that it occupies while other laboratories are short of space. In order to make decisions about the future of these collections, it was decided to create an international scientific committee, composed of eminent specialists in this field but also curators in order to evaluate both the scientific and museological value of the collections. Compared to what usually happens, i.e. the disappearance of a given collection without any attention being paid, the intervention of the *Jardin des Sciences* certainly meant that the future of these collections could be discussed beforehand so that the best possible solutions be considered. I am doubtful that the university will again create a position in paleontology, though that would be certainly the best solution to preserve and give access to the collections.

Thus with these two examples, one can see that active departmental research and teaching provides a strong support for the preservation of a collection. One can name briefly other examples, like the herbarium, which survives because of the decision to preserve a lecturer position - and assistants to take charge of it when the position was vacant. Many other French universities opted against keeping their herbaria, such as the University of Montpellier, despite possessing France's second largest herbarium after the one of the MNHN. The Montpellier herbarium is at risk now of being closed and its specimens lost.

#### *Science studies may offer a 'second chance' to preserve collections*

Collections of scientific instruments have a special status among university collections: some do not even consider them to be collections and others refer to them as 'second generation'. Second generation in this sense refers to their character as a medium and testimony of prior research activities and practices – in contrast to currently used research collections that are thus considered to be 'first generation'. But they do not only lack acceptance as collections, their preservation depends largely on the heritage value attributed to it by the same scientific community whose predecessors used these instruments.

In Strasbourg, some scientific instruments benefited from particular attention. Historical instruments of astronomy, seismology and earth magnetism are preserved and exhibited in museum spaces. In 2003, a preservation programme of instruments related to physics was created. In addition to instrumentation, special care has been given to the paper archives in order to bring together a set of

documentary data that shows the practices, knowledge, and research policies conducted in the fields of physics at Strasbourg University (SOUBIRAN 2007).

Among the various reasons that sustained this programme is the existence of a research group at the university dedicated to science studies and history of science, which has defined scientific heritage as a subject of its research activities. This research is based on the conviction that practices of memorialization, their motives and the aims they define, particularly within a university, cannot be separated from a historical or sociological point of view (BOUDIA ET AL. 2009). This close link enabled Strasbourg University to apply successfully for research funding to pursue research both on the history of physics in Strasbourg after 1945 and on scientific heritage practices.

Together with such usual research related activities as publications or the organization of workshops and conferences, this funding enabled the start of an inventory of scientific instruments within the university. This inventory uses the general inventory method in collaboration with the services of the regional Alsace inventory. This led to the creation of a database, in which each item receives a descriptive record, completed by documentary research. To date, more than 500 instruments have been inventoried, and more than 300 are already accessible online. This program will be extended to earth sciences, medicine, and physiology.<sup>2</sup>

Thus research activities in science studies and history of science certainly contribute to sustain several practical aspects of the preservation plan put in place in Strasbourg (BOUDIA 2002).

#### *Collections may support new development of research and teaching*

Research and teaching may support the creation and preservation of collections and vice-versa the existence of collections can support the development of new fields of research and new curricula.

It is now well known and proven that natural history collections find a second life linked to the development of new techniques and scientific interest on biodiversity and genetics. The old and dusty specimens that lots of universities were tempted to get rid of (or those less lucky, did throw away) are a unique opportunity for universities to participate to these new development of natural science. Though it might be too soon to analyze the change, however it seems that we currently face a new turn and that systematic sciences that were considered to be outdated practices compared to such new fields as molecular biology, may not in the end be that old fashioned.

Apart from the use of collections and museums in scientific curricula, new masters courses are opening this academic year in Strasbourg. The new curriculum is attached to the masters in science studies and would provide teaching on museum, science museum, scientific heritage, exhibition, cultural and museum policy. The main interesting point is the link between training in science studies and museum and cultural studies. It is quite an original connection in France where university science museum studies are more usually linked to information and communication departments. This curriculum is reinforced by the collaboration with two other masters of the university: the one on cultural policies (in political science) and of course the one of ethnology and museology. The opening of this new curriculum certainly relies on the development of the policy put in place five years ago on heritage preservation and cultural events that have been developed. It will also benefit from the various networks that have been built with museum professionals, heritage professionals, scientific culture professionals and historian of science.

It is also expected to offer new opportunities to start research studies on university collections, whether those in Strasbourg or on a more general point of view and helped to enhance their visibility

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<sup>2</sup> [www.hp-physique.org](http://www.hp-physique.org) (accessed September 10, 2010).

as research object in various disciplines such as science studies, museum studies, cultural studies: master research or PhD thesis.<sup>3</sup>

### **Collections as pedagogical medium for training in science**

If, as in many cases, collections are not used anymore for teaching in scientific field at the university, special actions were taken for the last five years to promote the use of university collections and museums for training in science not only for primary and secondary school pupils but also for their teachers.

In regard to primary schools, a special collaboration was started in 2006 with the regional university institute in charge of the training of teachers (IUFM), which is now part of the university. This program aims at building pedagogical tools for teaching science in primary schools using university collections and museums. Special visits of the university's museums are organized during the training of the future teachers, but also for those who are already in service. During the visit, different tools are offered to the teacher to prepare a class visit to the collections and the museums. An educational suitcase was also built with replicas of artifacts from various collections – stuffed animals, skeletons, a seed collection, a herbarium, and casts of fossils – for illustrative use in class room science courses.

The building of pedagogical tools is the result of a collaboration between animators of various structures of the *Jardin des Sciences*, professors in charge of the training of teachers but also teachers who have a special mission given by the regional authority of the Ministry of Education and devote from 3 to 6 hours per week to the *Jardin des Sciences*. In total, five teachers spend 20 hours per week working on the preparation of educational tools: some of them are directly linked to the collections and the museum structures of the university. These tools concern primary and also secondary schools.

The pedagogical use of the university collections appears more sustainable than their use for research but it may require finding a new public.

#### *Counterexamples: Research and teaching doesn't necessarily preserve or guarantee the accessibility of collections*

There are also quite a few examples in Strasbourg in which neither research nor teaching were able to guarantee the preservation of the collection or their accessibility to general public.

For instance, we might consider the collections of ethnology. These collections are connected to active departmental research and have courses that use the collections in teaching. Masters dissertations and PhD theses continue on a regular basis to be researched and written using the collections. However there is no proper room to store the collections of ethnology and they have repeatedly been moved from one place to another for the past ten years, so that today their accessibility is very limited. Apparently, the fact that research activities involve the collections – and in ethnology in general continue – or that master classes on ethnology and museology use the collections, hasn't really helped.

In Egyptology the strong use of the collections in research and teaching activity, limited the opportunity to broaden the accessibility to general public. Indeed, the department of Egyptology moved recently to a new building housing the research departments in humanities and social sciences. A special room was given to Egyptology, with special storage areas and arrangements to guarantee the accessibility and preservation of the objects of the collections. The room is also used for teaching. The new director's main interest is the use of the collection for teaching and research. He started the creation of

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<sup>3</sup> [mastersts.u-strasbg.fr/](http://mastersts.u-strasbg.fr/) (accessed September 10, 2010).



a new database that includes not only archaeological artifacts, but also papers, archives and books related to the collections. This database is conceived primarily as a research tool to support scientific publications on the collection. Thus the collections are used primarily for academic activities. Exhibitions or public events are possible only on a limited scale.

These last examples certainly illustrate that often one needs more than a research and teaching program to save university collections or guarantee their accessibility to non academic public.

### **Recognizing a scientific and cultural value for university collections and museums**

*Is research and teaching a key for preserving university collections and museums?*

Yes, if these objects created by and for academic practices should remain as such: namely scientific objects for the development of knowledge. Then we should also accept that their survival is strongly attached to the existence of the field that used and created them. One knows that objects of science, fields of interest, pedagogical tools, knowledge, change with time. Thus new collections continue to appear: for example, genetic code samples replaced stuffed animals (STRASSER 2007); 3D or MRI images, an anatomical specimen, a mineral, a fossil. The answer to this question also depends upon the scientific and political policy adopted by the university regarding which fields are of interest at a given time: paleontology still exists as a scientific field, as do botany and zoology – yet only in rather few universities. The new history of zoology collections may help to argue that the scientific value of a collection is never lost, what about mineralogy and paleontology specimens that have already been published? Collections comprised of research objects are like laboratory note-books, once the research is published they are of no use anymore. When you ask a scientist if he or she has any archives of his or her work, he/she first shows you off-prints. Collections related to humanities seem to have a longer lifetime than those of hard science. Humanities and social science may also become interested in the primary sources of science but these fields also have their own modes, own interests; it can't last forever. Lots of research on the history of science and techniques argues for the importance of materiality, objects, and practices of science but even they don't really need the material existence of the object in the end. After few publications, master or PhD thesis, the interests may decrease and the preservation for the advancement of knowledge may be less obvious. Pedagogical property of the collections appears more sustainable, but their use for teaching is also strongly linked to the existence of associated research within the university. Thus, why keep the object once the research is over, it has been digitized, complementary documentation gathered, and a full description made?

*Has research and teaching helped the preservation of university collections and museum?*

Yes again, most of the time, because above all, the primary missions of the university are research and teaching, so we should always create opportunities to maintain collections and museums in these activities, knowing that it always needs constant adjustments. However if this strong link is necessary in most cases, it is not sufficient if one is interested not only in the scientific value of the collections but also their cultural, historical and heritage value. The aim is different: on the one hand, it is the material use of the object that matters, and on the other hand it is its immaterial significance given by this different material uses. This immaterial value is reinforced by the sheer variety of what is in the collections and museum: stuffed animals, plaster casts, sketches, slides, maps, original or modified instruments, skeletons, seeds, botanical specimens, photographs, books ... This heterogeneity of the collections I mentioned at the beginning of my paper is a value in itself, because it testifies to the richness of the university as a knowledge and cultural institution. Very well, but while a university may have a museum, it is in itself not a museum! So this brings me to another fundamental question: Should the university itself be in charge of the preservation of its heritage and should it guarantee its accessibility to large public? Why can't this role be conferred to a public museum? Big museum

institutions are usually associated with high level research, teaching, preservation and accessibility of scientific collections. To name a few in France, the Louvre, the Beaubourg Centre, the National Museum of Natural History, the Conservatoire National des Arts et Métiers, and the newly created Musée du Quai Branly. Most of the collections preserved at the University of Strasbourg could certainly find their place in one of these museums. However the value of these collections is deeply bound to the University of Strasbourg and its high level scientific research, as well as the variety and quality of its education program. The collections and museums, whether attached to research and teaching or preserved for their patrimonial value, strongly contribute to define what is the university today.

## Conclusion

*The question is: How can the university assume this role of preservation?*

Preservation of heritage goes hand in hand with accessibility. Teaching and research may provide access to collections for students and academics and as such any opportunities to encourage them is important to follow as already pointed. One has, however, to go outside the disciplinary framework with which each collection is associated. Their scientific and heritage value, as well as their visibility and accessibility would be enhanced if one considers them as mutual resources. University collections – because they are both knowledge and cultural artifacts – should be considered as fundamental material for research or teaching just like books and paper archives. In that sense collaboration with the university library is a serious option to follow. Although in the United States such collaboration is often undertaken, with a few examples also in the United Kingdom and Canada, in France the library and the museum are completely separate bodies. Within the university, collaboration between museum and library is certainly a serious path to enter. The policy of access for researchers and students developed by libraries can serve as guidelines: for instance links to web-based resources and collaborative digitization projects (GIBSON ET AL. 2007).

Moreover the myth of the Ivory Tower is no longer sustainable. A new regime of production of knowledge has been in place for the last thirty years (GIBBONS ET AL. 1994; NOWOTNY ET AL. 2001). In Europe, the building of a society of knowledge: put university in competition by creating a top university classification, encourage diversification of funding and stronger collaboration with private firms, a stronger role played by local authority (city, region), reinforcement of the links with civil society, implied new governance for universities to become – some would say – an enterprise. Concretely, the changes brought by this evolution of the university have had numerous impacts. One is the building or new assertion of a strong identity – in Strasbourg this process involved the fusion of three universities to one single University of Strasbourg. In many cases it translates into the development or the strengthening of the openness to the city and a particular attention, whether new or enhanced, towards identity building processes and their attached tools. Thus culture, history, heritage are thought as tools to be deployed in the building or re-arrangement of identity, which is often locally anchored.

North American universities, mostly built on an entrepreneurial system, offer the value of their experiences. However, to some extent this identity building goes hand in hand with prestige and a marketing dimension. One has to be watchful that a good equilibrium is preserved; the current financial crisis certainly shows the fragility of university collections if their marketing value becomes too dominant. Consequently, the cultural dimension of the university has to be taken more and more seriously giving university collections and museums a more fundamental and less secondary part to play within the university – not only as knowledge artifacts but also as heritage and cultural artifacts.

This is a new challenge to face, since the road will be a long and bumpy one if one wants to become attractive for new audiences, remain of use to researchers and students and fulfill the growing



expectations to create strengthen links with new partners. It is not just a question of becoming better but above all of being innovative in terms of museology. But aren't universities the place where new technologies are developed, where new knowledge on public, communication, cultural practices and policies are produced? Maybe it is time, on the one hand, not just to use this knowledge for ourselves but on the other hand, also to realise that taking care of collections, developing cultural events, and running a museum needs professional skills that are not necessarily innate or instilled through being an academic.

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